



3rd International Conference on Smart Grid and Renewable Energy

www.sgre-qa.org

20-22 March 2022
Doha, Qatar

Special Session on

High gain converter systems: topologies, design, modelling and their control

Organized and Chaired by:

Dr. Santosh K Singh

sksingh.eee@iitbhu.ac.in

Dr. Teng Long

tl322@cam.ac.uk

Dr. Yam Siwakoti

Yam.Siwakoti@uts.edu.au

Prof. Richard McMahon

R.McMahon.1@warwick.ac.uk

Call for Papers

Outline of the Session:

In recent time, numerous topologies have been reported to support the concept of high voltage/current gain converters for specific applications such as Photovoltaics, Fuel Cells and EV charging infrastructure. These concepts include impedance source converters, quasi-impedance source converters, active/passive converters with switched inductors, switched capacitors, switched LC networks, coupled inductor, multilevel converters etc. However, the industry is quite reluctant to adopt these concepts as this area is still evolving. Moreover, the system level integration of these converters needs to be thoroughly investigated to propose various solutions for different applications. The focus of this special session will be to converge towards certain approaches and topologies that may be useful for the commercialization of high gain converters. In addition, the wide band gap devices will be considered for enhancing the high power density of these converters which is quite useful for certain applications such as Electric transportation.

Topics of the session include, but are not limited to:

- ❖ Novel converter topologies
- ❖ High voltage gain DC-DC/DC-AC converter
- ❖ High Current gain DC-DC converter
- ❖ Dual active bridge topologies
- ❖ Modular converters with reduced component count
- ❖ Medium and high power multilevel DC-DC converters
- ❖ Hybrid converters feeding AC and DC loads
- ❖ Advanced modulation and control techniques
- ❖ System level integration of high gain converters
- ❖ Performance evaluation, fault tolerance and reliability analysis

Author's schedule:

Deadline for submission of special session papers

December 1, 2021

Notification of acceptance

January 1, 2022

Deadline for submission of final manuscripts

February 1, 2022

All the instructions for paper submission are included in the conference website:

<http://www.sgre-qa.org/>